HWG | HARRIS, WILTSHIRE & GRANNIS LLP

February 16, 2017

Ex Parte

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *Universal Service Reform – Mobility Fund*, WT Docket No. 10-208
Connect America Fund, WC Docket No. 10-90

Dear Ms. Dortch:

On February 15, 2017, on behalf of Nielsen Holdings plc ("Nielsen"), I spoke by telephone with Claude Aiken, Legal Advisor to Commissioner Clyburn. On February 16, 2017, Joby Fortson and Tom Jenkins of Nielsen, and Elizabeth Uzelac of Harris, Wiltshire & Grannis LLP and I met with Amy Bender, Legal Advisor to Commissioner O'Rielly. Mr. Jenkins participated by telephone. We discussed the attached presentation with Ms. Bender. In both discussions, we urged the Commission not to foreclose the use of Nielsen data in any Mobility Fund Phase II challenge process.

The Nielsen Mobile Performance ("NMP") program collects and analyzes data from the devices of more than 70,000 volunteer panelists across the country. Nielsen's panelists install an application on their devices that performs two types of testing. First, the application monitors the network performance the device is experiencing at all times, wherever it is and whatever task the panelist is using the device to do. This "passive/unscripted" testing modality results in Nielsen having a constantly updated dataset that reflects, by carrier, the technology that the device is using (e.g., LTE, 3G, 2G, Wi-Fi), the throughput speeds experienced at each moment the device is being used, and whether the device is not able to connect to any network. Nielsen supplements the data collected through the passive/unscripted modality with active tests that run in the background, triggering the device to download and upload a specific file. This "background activated" testing provides another view on network performance by allowing Nielsen to compare results from exactly the same test performed on different devices, across multiple networks, at different locations, and at different times of day.[1]

NMP results would be tremendously valuable in the context of Mobility Fund Phase II. They reflect actual consumer experience at a granularity as small as five meters. They are independent, unbiased, on-the-ground results, not generated from propagation models or

[1] Nielsen also measures mobile networks through drive tests. Each year, Nielsen drives 1.5 million miles, resulting in a rich set of drive-test data gathered two to three times each year in 199 MSAs covering 225 million people and 220,000 reported miles. Drive-test data provide engineering-level detail on network performance.

potentially biased sampling techniques. The Commission should welcome the use of NMP data as a source of evidence to verify or dispute the presence of LTE (or any other technology) in a particular Census block.

As proposed by a few, parties wishing to offer device-based testing evidence would be required to run speed-test apps in at least three locations per each challenged Census block using only FCC-endorsed speed test apps.[2] This testing technique, by definition, will reflect performance in as few as three locations within the Census block—at locations and times that are selected by the interested party. NMP produces unbiased results, often for far more locations within a Census block. Potentially affected carriers have also pointed out that manual testing in individual Census blocks will be very expensive, particularly if the original data used to establish eligible areas are flawed.[3] Moreover, it would be arbitrary for the Commission to endorse specific applications and preclude the use of other sources of device-based testing evidence without any process to evaluate the quality of the endorsed sources and consider alternatives.[4] Contributors to the universal service fund and consumers who are the ultimate beneficiaries of the Mobility Fund deserve decisionmaking based on the most accurate data available.

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2 *See* Letter from Douglas J. Minster, Vice President, Government and Regulatory Affairs, Atlantic Tele-Network, Inc., Mary L. Henze, Assistant Vice President, Federal Regulatory, AT&T Services, Inc., and Brian Gelfand, President, Buffalo-Lake Erie Wireless Systems Co., to Marlene H. Dortch, Secretary, FCC, at 6-7, WT Docket No. 10-208, WC Docket No. 10-90 (filed Feb. 9, 2017).

3 *See* Letter from Caressa D. Bennet, General Counsel, Rural Wireless Association, to Marlene H. Dortch, Secretary, FCC, at 2, WT Docket No. 10-208, WC Docket No. 10-90 (filed Feb. 14, 2017) (pointing out that the process to challenge and correct flawed Form 477 data will be "prohibitively expensive"); Letter from W. Allen Gillum, CEO & General Manager, East Kentucky Network d/b/a Appalachian Wireless (and 17 other CEOs, Presidents, and General Managers of mobile service providers), to Marlene H. Dortch, Secretary, FCC, at 2, WT Docket No. 10-208, WC Docket No. 10-90 (filed Feb. 14, 2017) (urging the Commission to explore alternatives to basing initial eligibility determinations on the Form 477 data and noting that the resulting challenge process would be very taxing on the finite resources of competitive carriers).

4 *See* Letter from David LaFuria, Counsel for United States Cellular Corporation, at 2, WC Docket No. 10-90, WT Docket No. 10-208 (filed Feb. 14, 2017) (calling for notice and comment on the challenge process).

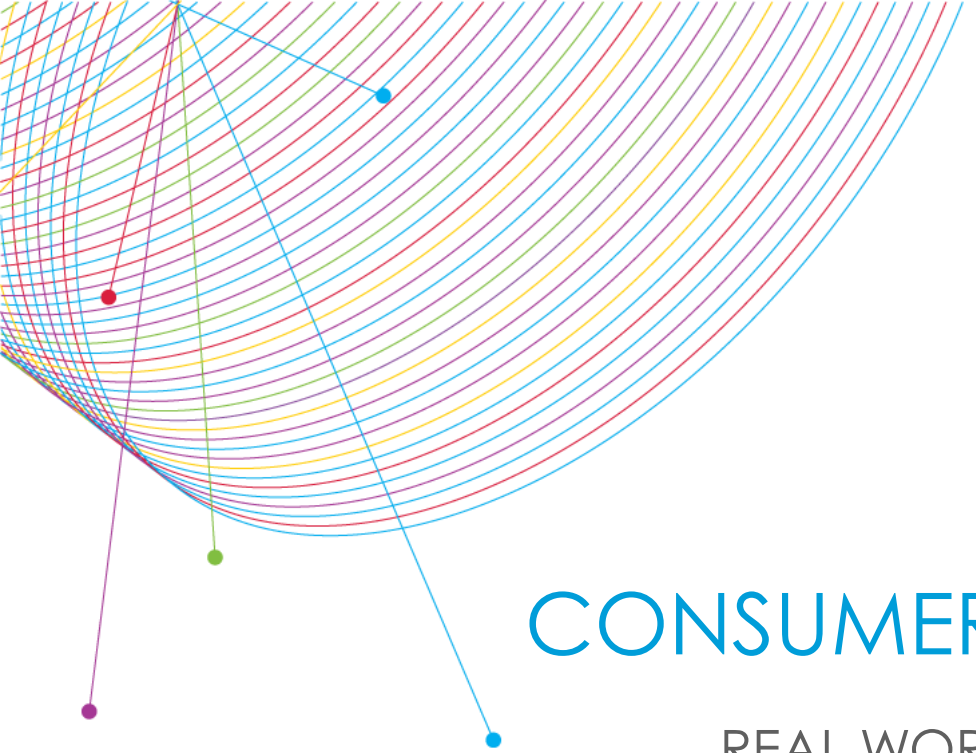
Should you have any questions, please communicate with me at (202) 730-1311 or jveach@hwglaw.com.

Sincerely,

Julie A. Veach
Counsel to Nielsen Holdings plc

Attach.

cc: Rachael Bender
Jay Schwarz
Claude Aiken
Amy Bender
Alex Minard
Jim Schlichting



nielsen

CONSUMER MOBILE COVERAGE

REAL WORLD MOBILE NETWORK COVERAGE MEASURED BY CONSUMERS 24X7

February 3, 2017

4 WAYS TO MEASURE MOBILE

3 USED BY NIELSEN TODAY

Active/Scripted Testing

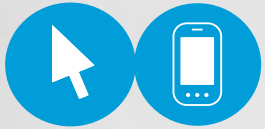
User or Testing company actively tests the network. Performs predefined tasks.

Upload/Download/Voice Calls – Attempt to simulate consumer behavior and mobile experience. Fixed file sizes, types of files and test scripts.

Drive Test

Advantages:
Voice and data
Identical tests
Ultra-detailed metrics
Controlled/repeated area

Disadvantages:
2x to 3x per year
Limited scripts/tests
1 device per operator
Limited time of day
Limited locations
Limited operators



User Activated

CLICK: Begin Test Now

Advantages:
Anywhere user desires
Anytime desired
Multiple devices

Disadvantages
Huge file sizes (data use)
No/limited app results
No voice results
Low quantity of results
Operators can identify

Background Activated

Automatically Test Periodically

Advantages:
Collects everywhere
Collects anytime
Controlled tests (same)
Multiple devices

Disadvantages
Med/large files (data use)
No/limited app results
No voice results
Operators can identify

Passive/Unscripted Testing

Results are based on what consumers do on their own for all calls, data uploads/downloads, wifi connections, and apps.

No scripts used. Only real results from actual consumers.

Consumer Uses Device Normally

Advantages:
Actual consumer experience
Collection 24x7 (billions of points)
All applications collected
Speed/throughput
Voice collection (inc. VoLTE)
Coverage
Collects everywhere/location
Multiple devices
Minimal extra data use
All operators
Operators can't identify

Disadvantages
No controlled tests
Tests not standardized
Less detailed metrics

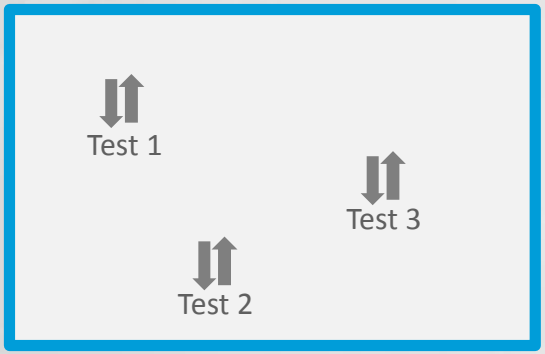
THE UNIQUE POWER OF NMP PASSIVE

Goal: To understand LTE experience in a specific Census Block

Active Tests

(from consumer app test,
operator app test, or drive test)

Census Block 1



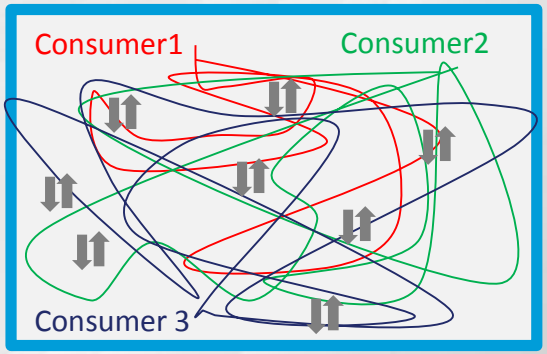
- 3 tests @ 10 seconds to 10 minutes each = 30 seconds to 30 minutes of testing
- Does not reflect actual consumer experience/use (big file test)
- Point in time
- Non-random locations/times

Vs

Passive Tests

(from consumer app)

Census Block 1



- 3 consumers @ 1440 minutes/day/person = 4,340 minutes of coverage results/day
- More data speed results where consumers use device
- Throughout the day, week, month
- Everywhere consumers go

NIELSEN MOBILE PERFORMANCE

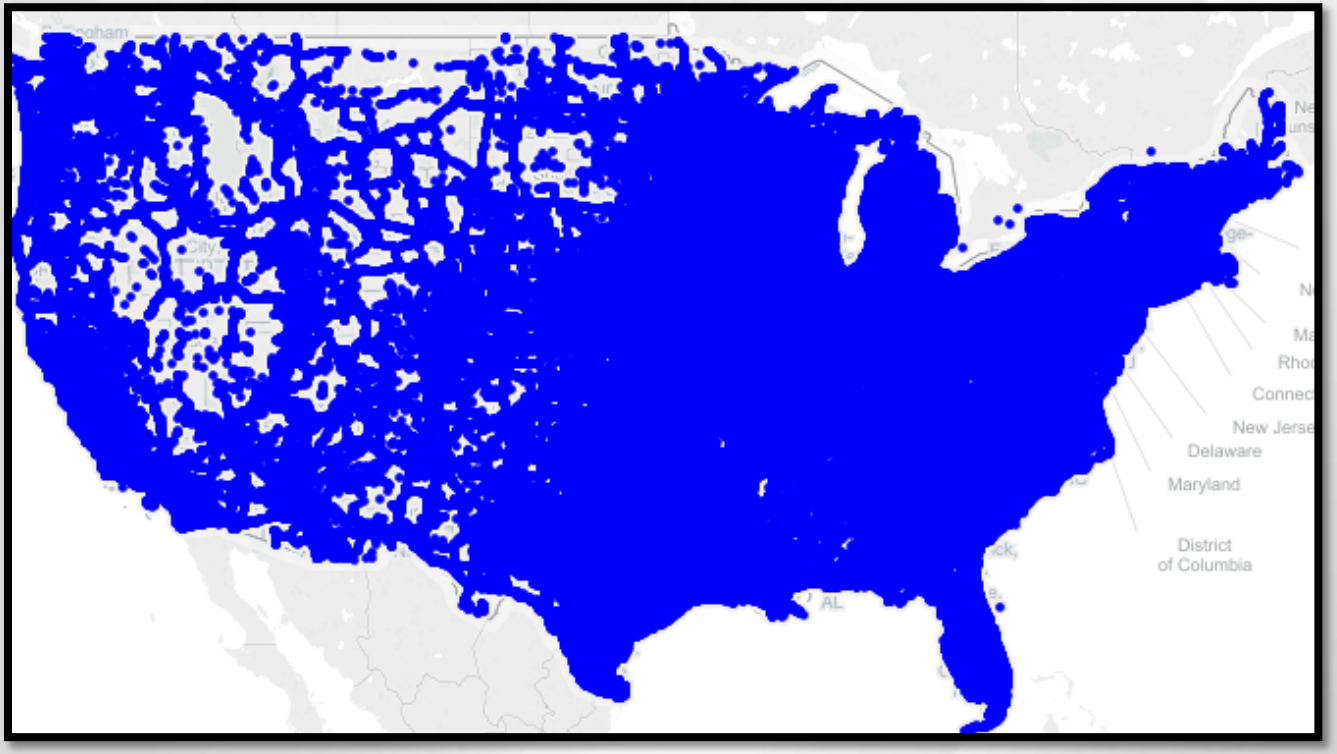
Passive/Unscripted Testing

- Passive measurement of the mobile consumer's actual experience, 24/7.
  - More than 70,000 panelists
  - More than 500,000,000 real consumer experiences
  - More than 100,000,000 hours of results
  - When, where and how consumers use their devices
  - Measures:
    - Coverage (24x7) of 2G/3G/4G and No Service
    - Signal strength
    - Data speeds
    - Time of day and device location

How can NMP passive/unscripted data be used?

- Nielsen Mobile Performance can:
  - Reflect presence or lack of LTE in any area of the US based on parameters of the customer's choosing (e.g., signal strength, data speeds)
  - Report for any operator or group of operators
  - Report at any level of granularity down to 5 meters (e.g., county, zip code, census block, 100M, 50M)
  - Report timely, up-to-date results
- Results are available in aggregate or by carrier. Different carriers have LTE coverage gaps in different locations.

NATIONWIDE RESULTS – EVERYWHERE CONSUMERS GO

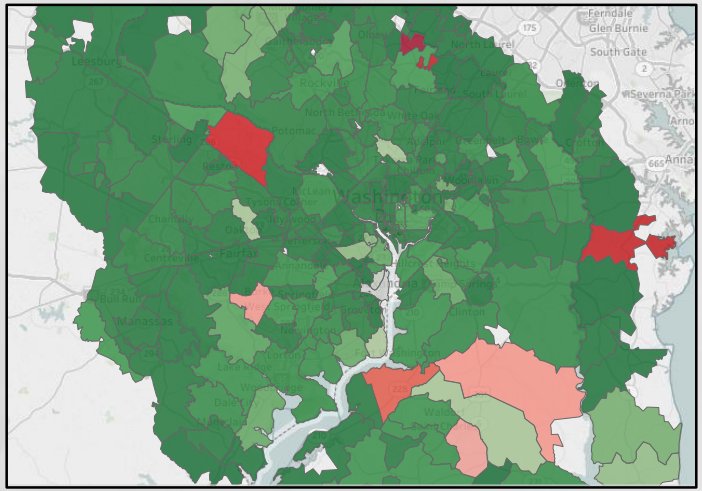


Nielsen Mobile Performance results are available in the areas shown in blue. And, if results are not already available in a particular neighborhood, Nielsen can initiate the collection of data for any public location in the US within 7 days.

LOCAL AND HYPER-LOCAL RESULTS

Urban Area: Washington, DC

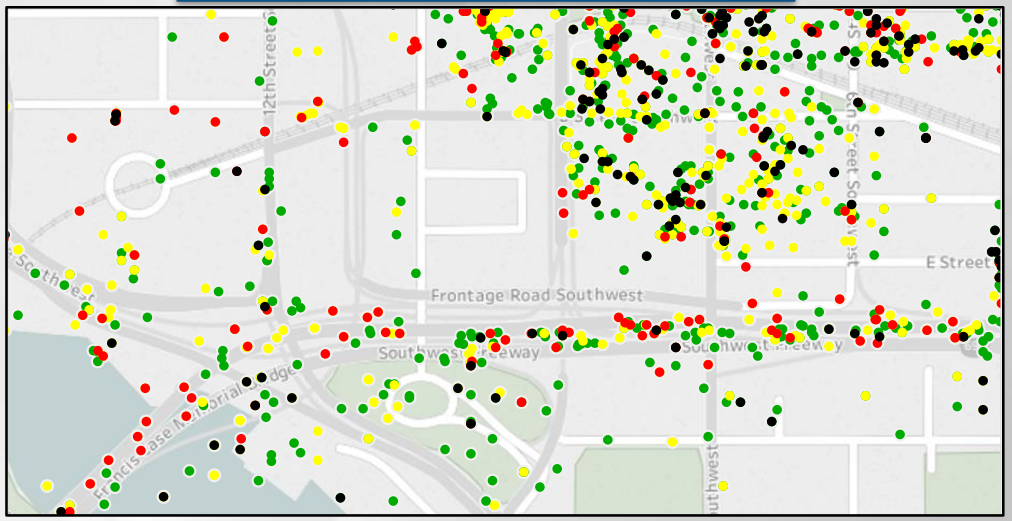
% LTE Service Results By Zip Code



Low/No LTE Service

Strong LTE Service

Exact locations where consumers lost and gained coverage



No Service

Homing 3G

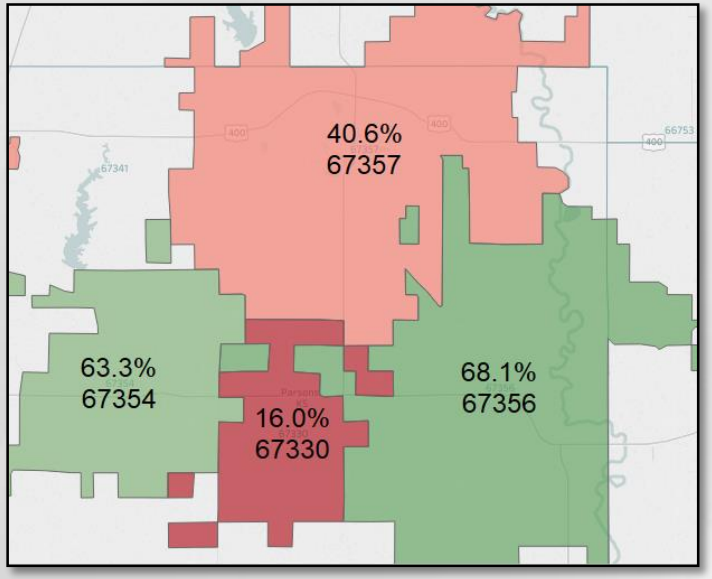
Homing 2G

Homing 4G

LOCAL AND HYPER-LOCAL RESULTS

Rural Area: Parsons, KS

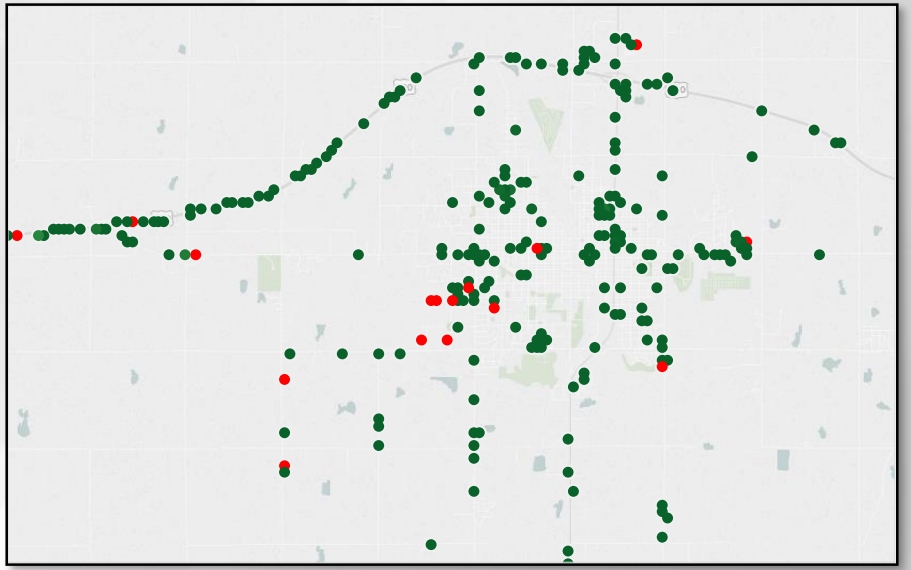
% LTE Service Results By Zip Code



Low/No LTE Service

Strong LTE Service

Locations where LTE was prevalent vs less strong



nielsen

AN UNCOMMON SENSE
OF THE CONSUMER™

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